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EXAMINER	
REINIER, BARBARA DIANE	

ART UNIT	PAPER NUMBER
2625	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/527,579	LOEW, ANDREAS	
	Examiner	Art Unit	
	Barbara D. Reinier	2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 October 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-35* is/are pending in the application.

4a) Of the above claim(s) *1-14,18,19,27,30 and 31* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *15-17,20-26,28,29 and 32-35* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/15/2009 has been entered.

Response to Arguments

2. The Examiner wishes to thank the Applicant for remarks dated 10/15/2009.

3. Applicant's arguments filed 10/15/2009 have been fully considered but they are not persuasive. The Examiner respectfully disagrees with the assessment of Rai's disclosure.

With regards to Applicant's arguments on page 5, paragraphs 2-5: the Examiner agrees that the LUTs 1216, 1218 and 1220 do not apply the stored correctional values to the T-matrix but instead to the optional alpha mixer. Although the alpha mixer is present, the Examiner directs the Applicant's attention to the other features of Rai's disclosure that are related to the execution of the T-matrix correctional functions.

With regards to Applicant's arguments on page 6, paragraphs 1 and 3: the Applicant asserts that Rai does not disclose or suggest a hue signal connected to

memories which store information for the matrix. In examining Figure 12, is it clearly shown that 1232 is a color correction look-up table that includes the coefficients of the T-matrix for the *various* color channels and that the hue signal values are applied via the index generator as well as the user controls 1214. And, the hue signal, that is coming from the RGB to HSY converter 1210, goes through the index generator 1212, and then onto the LUT memories 1232. The Examiner notes that although the hue signal as shown is not directly connected to the LUT memory table, it would be an obvious variation to have directly made the connection since only a single signal is passed through the index generator where the hue value is used as the index value thereby reducing the circuit complexity. Although, as the Applicant states that the hue signal is supplies through the alpha mixer and not to the T-matrix is correct, as discussed above, this is clearly not the only condition since as shown in the flow chart of Figure 7 the alpha mixer option is just that - an optional additional correction process.

With regards to Applicant's arguments on page 6, paragraph 2: the Applicant asserts that Rai does not disclose or suggest a saturation signal supplied to multipliers located in the supply lines of the correction values to the matrix. Rai discloses where user control interface 1214 shown in Figure 12 also controls the configuration of a color correction look-up table 1232 shown in Figure 12 that includes the coefficients of the T-matrix for the various color correction channels (col. 18 lines 2-39 & col. 30 lines 15-21). Additionally, in view of the flow chart of Figure 7, it is clearly shown where the use of the alpha-mixer is viewed as an optional step that additionally takes the different correctional signal values.

With regards to Applicant's arguments on page 6, paragraphs 4 and 5: the Applicant discusses claim 35. In the presented claims of 7/20/2009 and subsequent Office Action dated 9/10/2009, claim 35 was not present. This condition was noted in the remarks of the Office Action of 9/10/2009. However, claim 35 will be examined based on the presented argument and amendment.

Dependent claims 16, 17, 20-26, 28, 29 and 32-35 are further analyzed as detailed within this Office Action.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 15-17, 20-26, 28, 29, 33 and 34 are rejected under 35 U.S.C. 102(e) as being anticipated by Rai et al (US 6,337,692).

Regarding claim 15: Rai teaches an apparatus **(system)** for correcting color video signals **(col. 1 lines 14-16)**, comprising:

a matrix **(T-matrix, col. 18 lines 24-29)**, through which the color video signals pass to control the proportions of three primary colors in matrixed color value signals **(RGB, col. 17 lines 47-50)**,

means for controlling the matrix as a function of hue of the color video signals **(hue parameter H for the given pixel is passed to an index generator circuit 1212 shown in Figure 12 that determines whether the pixel occurs within a color correction channel, col. 18 lines 2-19, col. 29 lines 20-27 & col. 30 lines 15-21)** respectively, and

means for controlling the matrix as a function of color saturation **(user control interface 1214 shown in Figure 12 also controls the configuration of a color correction look-up table 1232 shown in Figure 12 that includes the coefficients of the T-matrix for the various color correction channels, col. 18 lines 2-4, lines 37-39 & col. 30 lines 15-21)**;

memories for storing information which the matrix uses to control the color value signals **(LUT 1234 of Figure 12)**; and

a converter for generating a hue signal from the color video signals, hue signal connected to inputs of the memories **(hue parameter H for the given pixel is passed to an index generator circuit 1212 shown in Figure 12 and is then connected to the color LUT 1232 shown in Figure 12, col. 29 lines 20-27 & col. 30 lines 15-21 [*the Examiner notes that although the hue signal as shown is not directly connected to the LUT memory table, it would be an obvious variation to have directly made the connection since only a single signal is passed through the index generator where the hue value is used as the index value thereby reducing the circuit complexity*])**;

wherein the matrix comprises nine multipliers and three adders, wherein three of the nine multipliers are connected to one adder, respectively **(as shown by the T-Matrix multiplication circuit 1306 of Figure 13B)**.

Regarding claim 16: Rai teaches an apparatus further wherein the memories store coefficients of the matrix **(LUT 1234 shown in Figure 12 in memory)** that are set as a function of hue of the color video signals **(hue parameter H for the given pixel is passed to an index generator circuit 1212 shown in Figure 12 and is then connected to the color LUT 1232 shown in Figure 12, col. 29 lines 20-27 & col. 30 lines 15-21)**.

Regarding claim 17: Rai teaches an apparatus further wherein the memories store coefficients of the matrix **(LUT 1234 shown in Figure 12 in memory)** correction values for the coefficients of the matrix **(memory for maintaining the correction LUT, col. 30 lines 15-18)**, wherein the correction values are set as a function of hue of the color video signals **(hue values being supplied to the LUT via the index generator of Figure 12)**.

Regarding claims 20 and 21: Rai teaches an apparatus wherein the converter **(col. 13 lines 62-65)** generates a color saturation signal **(via user control 1214 of Figure 12)** supplied to multipliers located in the supply lines of the correction values to the matrix **(user control interface 1214 shown in Figure 12 also controls the configuration of**

a color correction look-up table 1232 shown in Figure 12 that includes the coefficients of the T-matrix for the various color correction channels, col. 18 lines 2-4, lines 37-39 & col. 30 lines 15-21).

Regarding claims 22-25: Rai teaches an apparatus wherein the color video signals are provided as color value signals, wherein the converter comprises a converter matrix for generating color difference signals **(RY and BY, col. 10 lines 59-67 – col. 11 lines 1-2)** and a coordinate converter **(col. 25 lines 60-64)**.

Regarding claims 26, 33 and 34: Rai teaches an apparatus wherein one of the memories **(correction values from LUT 1232 of Figure 12)** supplies a correction coefficient to a respective one of the multipliers **(shown in 1232 of Figure 12 supplying coefficients to T-matrix shown in Figure 13B)**.

Regarding claim 28: Rai teaches an apparatus according to Claim 16, further comprising a computer for loading the correction values into the memories, and the means for controlling the matrix having a program on a computer readable medium for setting the correction values **(col. 5 lines 21-28)**.

Regarding claim 29: Rai teaches an apparatus according to Claim 28, comprising a device for the manual setting of the correction values **(user control interface 1214 shown in Figure 12 also controls the configuration of a color correction look-up**

table 1232 shown in Figure 12 that includes the coefficients of the T-matrix for the various color correction channels, col. 18 lines 2-4, lines 37-39 & col. 30 lines 15-21).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rai et al (US 6,337,692) in view of Bestmann (US 6,433,898).

Regarding claim 32: Rai does not explicitly teach using logarithmizers connected upstream of the matrix and delogarithmizers connected downstream of the matrix.

Bestmann teaches using logarithmizers connected upstream of the matrix **(col. 2 lines 23-27 & col. 6 lines 41-44)** and delogarithmizers are connected downstream of the matrix **(col. 2 lines 30-31 & col. 7 lines 64-67)**.

Rai and Bestmann are combinable because they are from the field of endeavor in image processing ("*Electronic image processing is composed essentially of the steps of image input, image processing and image output*." Bestmann col. 1 lines 11-13).

At the time of the invention, it would be obvious to one of ordinary skill in the art to refine the image correcting capabilities as taught by Rai by introducing the logarithmic compensation for density as taught by Bestmann.

The motivation to do so would to allow for compensating for various film densities to be taken into consideration when processing the image for output (Bestmann col. 6 lines 33-67 – col. 7 lines 1-67).

Therefore, it would have been obvious to combine Rai and Bestmann to obtain the invention as specified in claim 32.

Regarding claim 35: Rai teaches a correcting color video matrix **(T-matrix, col. 18 lines 24-29)**.

Rai does not explicitly teach where the output signal is configured to limit each color signal to a maximum value governed by a quantization.

However, Bestmann teaches an apparatus according to Claim 15, further comprising three limiters, connected downstream of the matrix **(col. 2 lines 30-31 & col. 7 lines 64-67)** configured to limit each color signal to a maximum value governed by a quantization **(output values determined for a possible value range (interpreted as indicating a minimum and a maximum value), col. 5 lines 10-15 : *Note: the Examiner notes that it is well known that the use of logarithmic circuitry is essentially a high pass, low pass or band pass filter that has particular cut-off frequencies (values) to which the circuit has been tuned to pass or limit*)**.

At the time of the invention, it would be obvious to one of ordinary skill in the art to refine the image correcting capabilities as taught by Rai by introducing the logarithmic compensation for density and output limitations as taught by Bestmann.

The motivation to do so would to allow for compensating for various film densities to be taken into consideration when processing the image for output (Bestmann col. 6 lines 33-67 – col. 7 lines 1-67).

Therefore, it would have been obvious to combine Rai and Bestmann to obtain the invention as specified in claim 35.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Barbara D. Reinier whose telephone number is (571)270-5082. The examiner can normally be reached on M-Th, 8am-4pm Eastern.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Haskins L. Twyler can be reached on 571-272-7406. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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